



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 822,715	03.30.2001	Jason Ross	42390P10576	7276

8791 7590 05.06.2003

BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR  
LOS ANGELES, CA 90025

EXAMINER

ALCALA, JOSE H

ART UNIT PAPER NUMBER

2827

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/822,715

Applicant(s)

ROSS ET AL.

Examiner

Jose H Alcala

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-9,12-14,22-25,28-33 and 37-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9,12-14,22-25,28-33 and 37-40 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 1930 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

2. Claim 1, line 3 recites: "a plurality of first metal floods", and it should read: "a first plurality of metal floods", in order to have consistency of the terms used in the claims. Furthermore, line 4 recites: "a plurality first plates", and it should read: "a first plurality of plates", in order to have consistency of the terms used in the claims. In addition, line 7 recites: "a plurality second metal floods", and it should read: "a second plurality of metal floods", in order to have consistency of the terms used in the claims.
3. Claims 26 and 27 are objected to because of the following informalities: they are depending from cancelled claims, therefore they are not examined on the merits. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1,2,5-7,9,12-14,22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: how one plane is related to the other, and how are the planes separated, there needs to be a material (structural element) between the planes in order to support the via through hole.

Claim 25, is unclear regarding if there is a second dielectric layer, or if it is merely repeating the formation of the dielectric layer, claimed in claim 1.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2,5,6,7,22,23 rejected under 35 U.S.C. 102(b) as being anticipated by Kerndlmaier (US Patent No. 5,663,870). As best understood by the examiner:

Regarding Claim 1, Kerndlmaier teaches an apparatus comprising: a first signal path (reference number 25) connected to a first plane (conductive plane on surface 40) via a plurality of plated holes (reference numbers 36 and 39) at different locations along said first signal path, the first signal path on a second

plane (conductive plane on surface 20); a plurality of first metal floods (reference number 33, and 23) connected to the respective plated holes to form a plurality first plates, the first metal floods on the first plane; a second signal path (reference number 26) on the second plane; and a plurality second metal floods (reference number 22, and 32) connected to the second signal path to form a plurality of second plates above the respective first plates, the second plate on the second plane.

Regarding Claim 2, Kerndlmaier teaches that each set of first and second plates form a capacitance.

Regarding Claim 5, Kerndlmaier teaches that the first and second signal paths are adjacent to each other (See Figure 3).

Regarding Claims 6, Kerndlmaier teaches, the limitation that the first plane is a ground plane or a power plane, is an intended use limitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

Regarding Claim 7, Kerndlmaier teaches that each of the first metal floods is an isolated area in the first plane (See figure 4).

Regarding Claim 22, Kerndlmaier teaches a dielectric layer (reference number 7) between the first plate and the second plate.

8. Claims 8,9,12-14,24,25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kerndlmaier (US Patent No. 5,663,870). As best understood by the examiner:

Regarding Claim 8, Kerndlmaier teaches a method comprising:  
connecting a first signal path (reference number 25) to a first plane (conductive plane on surface 40) via a plurality of plated holes (reference numbers 36 and 39) at different locations along said first signal path, the first signal path on a second plane (conductive plane on surface 20) by connecting a plurality of first metal floods (reference number 33, and 23) to the respective plated holes, to form a plurality first plates, the first metal floods on the first plane; connecting a plurality of second metal floods (reference number 22, and 32) to a second signal path on the second plane to form a plurality of second plates above the respective first plates, and a dielectric material (reference number 7) between the first plane and the second plane through which the plated holes extend.

Regarding Claim 9, Kerndlmaier teaches that each set of first and second plates form a capacitance.

Regarding Claim 12, Kerndlmaier teaches that the first and second signal paths are adjacent to each other (See Figure 3).

Regarding Claims 13, Kerndlmaier teaches, the limitation that the first plane is a ground plane or a power plane, is an intended use limitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed

apparatus from a prior art apparatus satisfying the claimed structural limitations.

Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

Regarding Claim 14, Kerndlmaier teaches that each of the first metal floods is an isolated area in the first plane (See figure 4).

Regarding Claim 24, Kerndlmaier teaches forming a dielectric layer (reference number 7) between the first plate and the second plate.

9. Claims 28-30,32,33,37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Kerndlmaier (US Patent No. 5,663,870). As best understood by the examiner:

Regarding Claim 28, Kerndlmaier teaches an apparatus comprising: a printed circuit board; a first transmission line (reference number 25) on a first layer (conductive plane on surface 40) of the printed circuit board; a second transmission line (reference number 26) on the first layer of the printed circuit board; and a plurality of capacitors (capacitors formed by plate 34, plate 35, and dielectric 7; plate 21, plate 24, and dielectric 7; plate 32, plate 33, and dielectric 7; plate 22, plate 23, and dielectric 7) connected to the first transmission line and the second transmission line at different locations, each of the capacitor comprising: a first plate (reference number 35,23) connected to the first transmission line by a plated hole, the first plate on a second layer (conductive plane on surface 20) of the printed circuit board; a second plate 9reference number 34,21)connected to the second transmission line, the second plate on the first layer of the printed circuit board; and a dielectric layer 9reference

number 7) between the first plate and the second plate, the dielectric layer between the first layer of the printed circuit board and the second layer of the printed circuit board.

Regarding Claim 29, Kerndlmaier teaches that the first plate can be above the second plate.

Regarding Claim 30, Kerndlmaier teaches that the second plate can be above the first plate.

Regarding Claim 37, Kerndlmaier teaches that the first transmission line is adjacent to the second transmission line (See Figure 3).

Regarding Claim 38, Kerndlmaier inherently teaches that the first transmission line is inductively coupled to the second transmission line.

Regarding Claim 39, Kerndlmaier inherently teaches that the first transmission line and/or second transmission line are routed as microstrips, since that is merely a label for the arrangement.

Regarding Claim 40, Kerndlmaier teaches that the first transmission line and the second transmission line are routed on surface layers (See Figure 3).

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



11. Claims 23,25,32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerndlmaier (US Patent No. 5,663,870) in view of Wang et al. (US Patent No. 5,475,262). As best understood by the examiner:

Regarding Claims 23, 25 and 31, Kerndlmaier teaches all the elements of the instant claimed invention as stated supra for claims 2,9, and 28 but fails to explicitly teach that the capacitance is a buried intersignal capacitance. Wang et al. teaches a circuit board where the capacitance is a buried intersignal capacitance (See Reference numbers 202,201 and 104) It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bohbot and Wang, in order to add more dielectric and conducting layers to the apparatus taught by Bohbot, thus improving rigidity of the board, allowing more elements to be connected to the apparatus and making the apparatus easy to repair.

Regarding Claim 32, the limitation that the buried intertidal capacitor mode compensates to improve signal quality in the printed circuit board is an intended use limitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

Regarding Claim 33, the limitation that the buried intertidal capacitor matches the propagation speed of odd-mode switch signals with the propagation speed of even-mode switch signals, is an intended use limitation. It has been held that a recitation with respect to the manner in which a claimed

apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

**Conclusion**

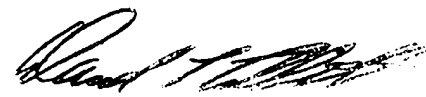
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references teach some of the elements of the instant claimed invention: Hale et al. (US Patent No. 6,407,929), Moriyasu et al. (US Patent No. 6,004,657), Pieper et al. (US Patent No. 5,729,438), Swarup (US Patent No. 5,929,729).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose H Alcala whose telephone number is (703) 305-9844. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JHA  
May 5, 2003



SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 6000